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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,966	07/28/2003	Patricia A. Wang	200209420-1	6184

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

5

Office Action Summary	Application No. 10/628,966	Applicant(s) WANG ET AL.	
	Examiner Callie E. Shosho	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-46 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. All outstanding rejections except for those described below are overcome by applicants' amendment filed 8/12/05.

In light of the new grounds of rejection set forth in paragraph 3 below, the following action is non-final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-46 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for organic acid that is polyacrylic, acetic, glycolic, malonic, maleic, maleic, ascorbic, succinic, glutaric, fumaric, citric, tartaric, lactic, sulfonic, and ortho-phosphoric acid, does not reasonably provide enablement for any type of organic acid including derivatives of the organic acids. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or use the invention commensurate in scope with these claims.

Case law holds that applicant's specification must be "commensurately enabling [regarding the scope of the claims]" *Ex Parte Kung*, 17 USPQ2d 1545, 1547 (Bd. Pat. App. Inter. 1990). Otherwise **undue experimentation** would be involved in determining how to practice and use applicant's invention. The test for undue experimentation as to whether or not all compounds within the scope of claims 1-46 can be used as claimed and whether claims 1-46

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meet the test is stated in *Ex parte Forman*, 230 USPQ 546, 547 (Bd. Pat. App. Inter. 1986) and *In re Wands*, 8 USPQ2d 1400, 1404 (Fed.Cir. 1988). Upon applying this test to claims 1-46, it is believed that undue experimentation **would** be required because:

(a) *The quantity of experimentation necessary is **great** since claims 1-46 read on any type of organic acid including derivatives.*

(b) There is **no direction or guidance presented** for making an ink comprising any type of organic acid including derivatives.

(c) There is an **absence of working examples** concerning making an ink comprising any type of organic acid including derivatives.

In light of the above factors, it is seen that undue experimentation would be necessary to make and use the invention of claims 1-46.

4. Claims 1-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 24 have each been amended to recite that the color ink includes “a component selected from the group consisting of multivalent salts and organic acids that interact with said polymer to control black-to-color bleed”. It is the examiner’s position that this phrase fails to satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement of the phrase “organic acids that interact with said

polymer to control black-to-color bleed” in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this phraseology in the specification as originally filed.

With respect to the organic acid, it is noted that paragraph 35 of the present specification discloses that the ink employing an organic acid and having an appropriate pH will render insoluble the pigment dispersion in the black inks by transforming the styrene maleic anhydride (SMA) polymer into water-insoluble protonated form.

Thus, while there is support to recite that the organic acid interacts with SMA at “appropriate pH”, there is no support for the broad recitation that the organic acid interacts with SMA to control black-to-color bleed. That is, from paragraph 35 it appears that the organic acid can only interact with SMA at an appropriate pH and thus, there is no support to broadly recite that the organic acid interacts with the SMA polymer.

Claim Rejections - 35 USC § 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parazak (U.S. 6,281,267) in view of Zhu (U.S. 5,889,083).

The rejection is adequately set forth in paragraph 6 of the office action mailed 5/13/05 and is incorporated here by reference.

Further, it is noted that although there is no disclosure that the organic acid or multivalent salt interacts with hydrolyzed styrene maleic anhydride (SMAH) to control black-to-color bleed, given that Parazak in combination with Zhu discloses ink identical to that presently claimed, it is clear that the organic acid would intrinsically interact with SMAH to control bleed.

Response to Arguments

7. Applicants' arguments filed 8/12/05 have been fully considered but they are not persuasive.

Specifically, applicants argue that Parazak is not a relevant reference against the present claims given that Parazak discloses acrylic polymer while present claims require hydrolyzed styrene maleic anhydride (SMAH).

It is agreed that there is no disclosure in Parazak of SMAH, however, it is also noted that Parazak discloses that the ink contains various additives to optimize the properties of the ink. However, there is no disclosure of SMAH which is why Parazak is used in combination with Zhu. While Parazak do disclose the use of acrylic polymer, given the open language of the present claims, i.e. "comprising", it is clear that the present claims are open to the inclusion of additional ingredients including acrylate polymer as disclosed by Parazak.

Applicants also argue that there is no motivation to combine Parazak with Zhu given that Zhu discloses using SMAH for abrasion resistance and fixing colorant to substrate with no mention of black-to-color bleed. Applicants also argue that Zhu is not a relevant reference

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against the present claims given that there is no disclosure of ink set and no disclosure that the addition of SMAH to ink would have additional benefits such as bleed control.

It is agreed that Zhu discloses the use of SMAH in order to fix colorant to substrate and that there is no disclosure that SMAH is used to control bleed or even any disclosure of ink set comprising black and color ink as presently claimed.

While there is no disclosure in Zhu that the SMAH is used to control bleed, it is noted that obviousness under 103 is not negated because the motivation to arrive at the claimed invention as disclosed by the prior art does not agree with appellant's motivation. *In re Dillon*, 16 USPQ2d 1897 (Fed. Cir. 1990), *In re Tomlinson*, 150 USPQ 623 (CCPA 1996).

It is also noted that Parazak discloses ink comprising black ink comprising water, co-solvent, self-dispersing pigment, surfactant, and additive to improve various properties of the ink and color ink that comprises water, co-solvent, multivalent salt, and organic acid. However, there is no disclosure of SMAH. Zhu, which is also drawn to ink jet inks, discloses the use of SMAH to fix colorant to substrate. Although there is no disclosure that the organic acid or multivalent salt interacts with SMAH to control black-to-color bleed, given that Parazak in combination with Zhu discloses ink identical to that presently claimed, it is clear that the organic acid or salt would intrinsically interact with SMAH to control bleed.

Further, although there is no disclosure in Zhu of ink set, Zhu is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference

teaches a certain concept, namely, the use of SMAH in ink jet inks, and in combination with the primary reference, discloses the presently claimed invention.

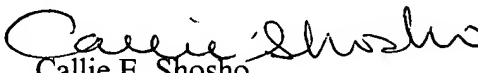
Additionally, while it is agreed that Zhu discloses combination of SMAH and wax provides abrasion resistance, on the one hand, Zhu is only used for its teaching of SMAH in inks wherein Zhu teaches that the use of SMAH fixes colorant to substrate. On the other hand, in light of the open language of the present claims, i.e. "comprising", the use of wax is clearly not excluded from the scope of the present claims.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
10/28/05